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REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is requested. Claims 8-21 are in this application. Claims 8, 16, and 20 have been amended. Claims 1-7 have been previously cancelled.

The Examiner objected to the drawings because FIG. 1 does not show the device region of the claims. FIG. 1 has been amended, as shown in red on the attached annotated marked-up drawing sheet of FIG. 1, and as shown in the attached replacement sheet of FIG. 1, to define a device region 126. In addition, the specification has been amended to define the device region 126. No new matter has been added. The replacement sheet of FIGs. 1 and 2, which is included in the Appendix along with the annotated marked-up drawing sheet of FIGs. 1 and 2, is to replace the formal sheet of FIGs. 1 and 2 mailed on September 4, 2002 and received by the Office on September 9, 2002.

The Examiner rejected claims 8-16 under 35 U.S.C. §112, first paragraph, arguing that there is no support for a device region that is free of conductive material because applicant's device region is doped with p- material. The Examiner also rejected claims 19 and 20 under 35 U.S.C. §112, second paragraph, arguing that the exact location of the device region in claims 8 and 16 is unclear. Claims 8 and 16 have been amended to more precisely recite the device region. In addition, the Examiner also argued that the limitations recited in claim 20 were unclear. Claim 20 has been amended, and is believed to clearly recite the limitations. As a result, it is believed that claims 8-16 and 19-20 satisfy the requirements of the first and second paragraphs of section 112.

The Examiner rejected claims 8-21 under 35 U.S.C. §102(b) as being anticipated by Kim (U.S. Patent No. 5,844,280). For the reasons set forth below, applicant respectfully traverses this rejection.

Claim 8 recites, in part,

"a device region that extends from a first horizontal plane to a second horizontal plane, and from a first vertical plane to a second vertical plane, the first horizontal plane lying on the surface of the semiconductor material, the second horizontal plane contacting the top surfaces of the first and second contacts, the first vertical plane contacting the surface of the semiconductor material between the first trigger region and the first contact region, the second vertical plane contacting the surface of the semiconductor material between the second trigger region and the third contact region, the device region being totally free of a conductive material."

In rejecting the claims, the Examiner pointed to substrate 1 shown in FIG. 3 of Kim as constituting the semiconductor material of the claims, and n+ region 6a shown in FIG. 3 of Kim as constituting the first trigger region of the claims. In addition, the Examiner pointed to p+ region 3a shown in FIG. 3 of Kim as constituting the first contact region of the claims, n+ region 6b shown in FIG. 3 of Kim as constituting the second trigger region of the claims, and p+ region 3b shown in FIG. 3 of Kim as constituting the third contact region of the claims.

However, when a device region is defined in Kim as required by claim 8, the device region includes a conductive material. As shown in FIG. 3 of Kim, the region that lies above the top surface of substrate 1 between a first vertical plane that contacts the top surface of substrate 1 between first trigger region 6a and first contact region 3a, and a second vertical plane that contacts the top surface of substrate 1 between second trigger region 6b and third contact region 3b, includes conductive gate layer 24.

As a result, it is not possible for a "device region" in Kim to be free of a conductive material. Thus, claim 8 is not anticipated by Kim. In addition, claims 9-15 and 21 depend either directly or indirectly from claim 8. As a result, claims 9-15 and 21 are not anticipated by Kim for the same reasons as claim 8.

Claim 16 recites, in part,

"a gap region of the semiconductor material located only between the first and second wells, the gap region contacting the surface; [and]

"a device region that overlies and contacts the gap region, the device region being free of a gate, and not lying below a gate." [Brackets added.]

In rejecting the claims, the Examiner pointed to wells 2a and 2b shown in FIG. 3 of Kim as constituting the first and second wells of claim 16, and the region of substrate 1 that lies between wells 2a and 2b as constituting the gap region. However, since the gap region must contact the surface, the Kim reference, as shown in FIG. 3, teaches that a gate 24 is formed over the gap region in the device region.

As a result, it is not possible for a "device region" of Kim to be free of a gate and not lie below a gate. Thus, claim 16 is not anticipated by Kim. In addition, claims 17-20 depend either directly or indirectly from claim 16. As a result, claims 17-20 are not anticipated by Kim for the same reasons as claim 16.

Thus, for the foregoing reasons, it is submitted that all of the claims are in a condition for allowance. Therefore, the Examiner's early re-examination and reconsideration are respectively requested.

Respectfully submitted,

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RESPONSE TO OFFICE
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PATENT

APPENDIX

Annotated Marked-Up Drawing Sheets of FIGs. 1 and 2.

Replacement Drawing Sheets of FIGs. 1 and 2.

Annotated Marked-UP Drawing

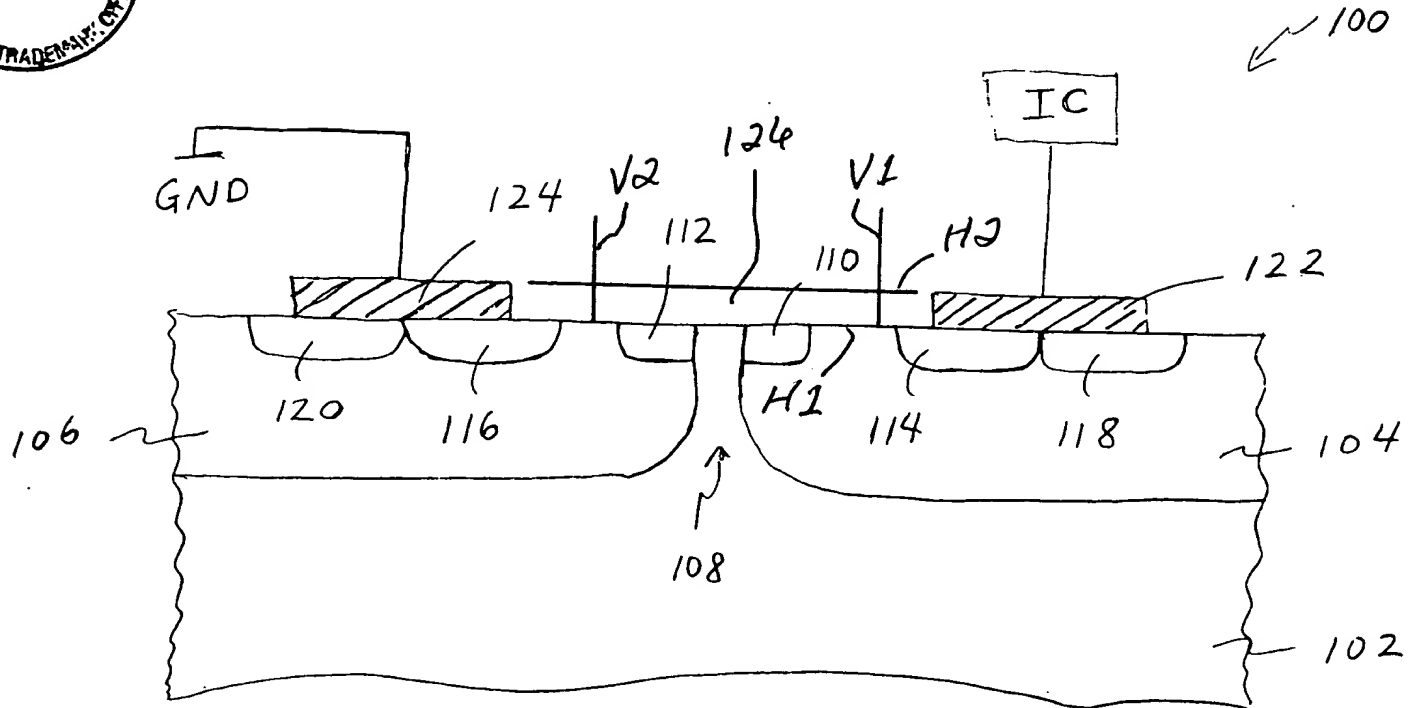


FIG. 1

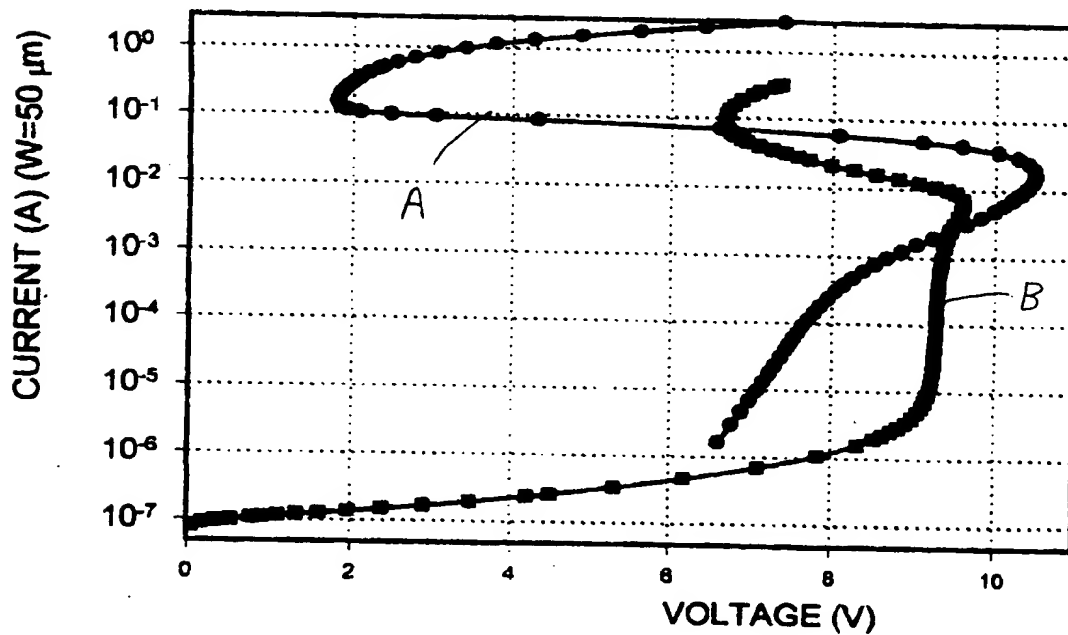


FIG. 2